

CLAIM AMENDMENTSListing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method for producing a recombinant protein containing repeating units comprising:
  - (a) providing a first pool of polynucleotides, said pool of polynucleotides comprising at least two tandem repeats of sequences encoding a portion of said recombinant protein, wherein said tandem repeats contain degenerate nucleotide sequences encoding for said recombinant protein in accordance with the degeneracy of the genetic code;
  - (b) providing a second pool of polynucleotides, at least some of which are complementary to the polynucleotides in said first pool of polynucleotides;
  - (c) combining said first pool of polynucleotides and said second pool of polynucleotides under conditions whereby the polynucleotides will anneal;
  - (d) extending the 3' ends of said annealed polynucleotides under conditions wherein said annealed polynucleotides act as primers for their complements;
  - (e) denaturing the extended polynucleotides;
  - (f) repeating steps (c) – (e) at least once, whereby the products of step (e) provide the polynucleotides for annealing in step (c) of the next cycle;
  - (g) if necessary, adding one or more linker oligonucleotides to the end of the products of (f), said linker oligonucleotides containing at least one restriction enzyme cleavage site;

- (h) inserting the products of (f) or (g) into a suitable vector;
  - (i) introducing said vector into a suitable host cell; and
  - (j) maintaining said host cell under conditions allowing for expression of said recombinant protein.
2. (Original) The method of claim 1, wherein said tandem repeats are separated by no more than nine nucleotides.
  3. (Original) The method of claim 1, further comprising cleaving said recombinant protein between said tandem repeats to produce non-repeating peptides.
  4. (Original) The method of claim 3, further comprising cleaving said polynucleotides after step (f).
  5. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 25% of a desired amino acid.
  6. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 50% of a desired amino acid.
  7. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 75% of a desired amino acid.
  8. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 90% of a desired amino acid.
  9. (Previously presented) The method of claim 1, wherein said tandem repeats encode at least one sequence selected from the group consisting of LKPNM (SEQ ID NO:1), KPNM (SEQ ID NO:2), VVYP (SEQ ID NO:3), KPN, DKP, YKP, EKP, DAP, EAP, HPP, VPP, LK, PN and NM.
  10. (Original) The method of claim 1, further comprising introducing a second vector into said host cell, said second vector containing a nucleotide sequence encoding an enzyme capable of cleaving said recombinant protein between said tandem repeats.

11. (Original) The method of claim 10, wherein said second vector further comprises a tissue or organelle specific promoter such that expression of said enzyme is restricted to a tissue or organelle different from the tissue or organelle expressing said recombinant protein.
  12. (Currently amended) The method of claim 10, wherein said second vector further comprises a plastid targeting sequence.
  13. (Original) The method of claim 10, wherein said vector further comprises an expression cassette.
  14. (Original) The method of claim 13, wherein said expression cassette comprises at least one promoter chosen from the group consisting of a tissue specific promoter, an inducible promoter, a constitutive promoter, a developmentally regulated promoter, an organelle specific promoter, a seed specific promoter and a plastid specific promoter.
  15. (Currently amended) The method of claim 13, wherein said expression cassette further comprises at least one plastid targeting sequence.
  16. (Original) The method of claim 13, wherein said expression cassette further comprises at least one secretion sequence.
  17. (Original) The method of claim 13, wherein said expression cassette further comprises an additional nucleotide sequence encoding an enzyme capable of cleaving said recombinant protein between said tandem repeats.
  18. (Original) The method of claim 17, wherein said additional nucleotide sequence is under the control of a separate promoter.
  19. (Original) The method of claim 1, wherein said host cell is selected from the group consisting of bacterial cells, yeast cells, insect cells and animal cells.
  20. (Original) The method of claim 1, wherein said host cell is a plant cell.
21. – 118. (Canceled)